

Vedanta Limited – Sterlite Copper, Thoothukudi

Consent Order No: 170817911029 Dated: 07.09.2017 under Water Act, 1974

S.NO	Consent Condition	Compliance Status
1	The unit shall operate and maintain the STP efficiently and continuously and the treated sewage shall be discharged on land for Gardening after satisfying the standards prescribed by the Board.	Complied. We are operating and maintaining the STP efficiently and continuously. The treated sewage water is used for green belt maintenance.
2	The unit shall regularly analyse the treated sewage and furnish ROA of the same to the Board.	Complied. The treated sewage water is analyzed periodically. The RoA of the same is submitted to Board on monthly basis.
3	The unit shall operate and maintain the ETP-6 Nos and RO systems followed by MEE & centrifuge system efficiently and continuously and ensure that the RO permeate and MEE condensate shall be recycling to process after satisfying the standards prescribed by the Board.	Complied. We are operating ETP and RO systems coupled with Multiple Effect Evaporator (MEE) / Mechanical Vapour Recompression (MVR) based crystallizer. The salts generated are disposed in Secured landfill.
4	The unit shall regularly analyse the treated trade effluent and furnish ROA of the same to the Board.	Complied. The treated water is analysed periodically. The RoA of the same is submitted to Board on monthly basis.
5	The unit shall ensure the connectivity of online monitoring system for the effluent parameters pH, TSS, flow with Care Air Centre of TNPCB and provide proper data at all times.	Complied. The online monitoring system for the effluent parameters viz. pH, TSS and flow are connected to Care Air Centre of TNPCB.
6	The unit shall provide electromagnetic flow meters at inlet and outlet of each ETP and at the RO-2 & RO-3 before 30.09.2017	Complied. We have provided separate flow meters at the inlet and outlet of each ETP and RO-2 & RO-3.
7	The unit shall computerize, operate and maintain all the electromagnetic flow meters effectively and continuously and record the raw water consumption, the rain water consumption, the waste water generation and the waste water reuse, with log book.	Complied. We have provided flow meters to assess raw water consumption, rain water consumption, waste water generation and waste water reuse and the log books are maintained.
8	The Hazardous waste generated shall be properly disposed as per Hazardous waste (Management & Transboundary movement) Rules, 2016.	Complied. The Hazardous Wastes generated are disposed as per Hazardous and Other Waste (Management & Transboundary movement) Rules, 2016
9	The Secured land fill facilities inside the unit's premises shall satisfy the CPCB guidelines.	Complied. The Secured land fill facilities are constructed as per CPCB guidelines.

10	The unit shall regularly monitor and record the fluoride concentration in groundwater at gypsum storage ponds and ensure with the baseline fluoride concentration.	Complied. We have provided monitoring bore wells around gypsum storage ponds for ground water quality monitoring. Ground water at gypsum storage ponds are regularly collected and analysed by TNPCB and the fluoride concentration are ensured.
11	The unit shall have storage of solid waste of slag within the stipulated 10 hectares of land with a restricted stacking height of 12 meters throughout the storage area for adherence with the safe load bearing capacity of 25 metric ton per square meter of the underlying soil / land in that area.	Complied. Copper slag is stored well within the stipulated stacking height and area.
12	The unit shall dispose the Gypsum and copper slag for sustainable applications i.e. for shot blasting, road building activities, cement industries and other relevant areas of application with approval from concerned agencies.	Complied. Gypsum and copper slag are disposed for sustainable applications as approved by TNPCB & MoEF.
13	The unit shall maintain the generation and disposal ratio as 1:1 in respect of Gypsum and copper slag and at any point of time the available stock over the dead lock in the yard shall not be more than the 15 days generation.	Complied. The generation to disposal ratio for Gypsum and slag is maintained at 1:1 ratio.
14	The unit shall adopt safety audit, risk assessment studies recommendations and emergency offsite demonstrations.	Complied. The recommendations of safety audit, risk assessment studies and emergency preparedness demonstrations are implemented on continuous basis.
15	The unit shall store the raw material of copper concentrate in the closed shed and shall receive & transfer it in closed conveyor system, without emission and spillages.	Complied. Copper concentrate is stored in closed warehouses and conveyed to smelter in closed conveying system.
16	The unit shall maintain dykes provided to all the chemical storage tanks effectively and continuously to avoid the possibility of any accidental discharge.	Complied. All the chemical storage tanks are provided with dykes.
17	The unit shall continuously remove the deposited silt in the storm water drains and dispose it off in secured landfill facility and shall practice this regularly with exclusive manpower & log book maintenance, for prevention of any pollutant carryover and for avoiding water logging.	Complied. Drain cleaning is a continuous activity and a separate contract given for periodic cleaning of all drains. The silt removed is disposed off in the SLF and manifest maintained.
18	The unit shall carry out health monitoring of the people living in the nearby villages at least once	Complied.

	every six months and furnish the report periodically.	Health Monitoring report is submitted to Board periodically (once in six months) and regular health monitoring is carried out in nearby village under Rural Health Camps run by us.
19	The unit shall furnish the monitoring data in respect of water quality periodically.	Complied. We have provided monitoring bore wells around solid waste storage areas for ground water quality monitoring. The water samples are collected periodically by Board.
20	The unit shall install RO-III, which has been removed, immediately so as to treat and reuse the water collected through storm water drain in the rain water harvesting ponds.	Complied. RO-3 has been installed and commissioned.
21	The unit shall collect the scrubber cake from the bag filters provided before the ISA/RHF scrubber and Converter /Anode furnace scrubber and dispose the same for further beneficial uses.	Complied. Scrubber cake is mixed along with the gypsum and disposed for further beneficial uses.
22	The water sprinkling shall be enhanced in and around Gypsum pond, rock phosphate storage area and Gypsum conveyor area.	Complied. Two tankers are engaged for water sprinkling in and around Gypsum pond, rock phosphate storage area and Gypsum conveyor area.
23	The renewal of consent is subject to the outcome of the case on Special Leave to Appeal (Civil) No(s). 28116-28123/2010 filed before the Hon'ble Supreme Court of India, and any further directions of the Hon'ble Supreme Court of India.	Complied. Hon'ble Supreme court vide order dated 02.04.2013 allowed the appeal.
24	The unit shall obtain and furnish the necessary clarification from Central Excise Department for the Copper Cathode produced from Thoothukudi plant and their Sister Concern at Chinchapada & Piparia plant during the year 2014-15 & 2015-16 before 31.10.2017	Complied. The Central Excise Department has clarified the Copper Cathode production from our manufacturing units at Tuticorin and Silvassa for the period of 2014-15, 2015-16, 2016-17 and 2017-18 (till June '17).
25	The unit shall submit separate ER-I form to the Central Excise Department for each of their unit viz. M/s Vedanta Ltd located in Thoothukudi, Chinchpada, Piparia, etc in consultation with or as advised by the Central Excise Department.	Complied. From 01.07.2017 (i.e.) Post GST implementation, no need to file ER-1 returns since the Excise Act merged into GST. The same has been communicated by Central Excise Dept and the copy of letter dated 11.12.2017 is submitted to TNPCB.
26	The unit shall operate the RO-3 and the MVR continuously and efficiently.	Complied. We are continuously operating the RO-3 and MVR.

27	The unit shall remove the heaped and dumped copper slag on the banks of River Uppar and Patta land in Pudukottai Village.	Complied. We approached the land owner of the Patta land for removal of heaped copper slag stored thereon.
28	The unit has to take action to construct physical barrier between River Uppar and slag land fill area of patta land so as to prevent slag from reaching River Uppar.	<p>We understand from the land owner that Sub Divisional Magistrate and Sub Collector, Thoothukudi issued a notice to the land owner on 30.10.2017 for cleaning the channel of any obstructions on Upparu Odai. In this regard, a reply was also sent to Sub Divisional Magistrate and Sub Collector on 06.11.2017 by land owner explaining the following facts:</p> <ol style="list-style-type: none"> 1) The District Administration had removed the sand and deposited in patta land during October 2016 for having a wide Upparu Odai. It did not cause any obstruction in the upparu odai. 2) Land owner requested District Administration to measure Patta land and demarcate the upparu odai. 3) Land owner issued undertaking to District Administration that if any deviation is found during land measurement, the land owner is committed to remove the heaped material immediately and construct physical barrier to demarcate the patta land with Upparu odai at land owner's cost. <p>Meanwhile, physical barrier was constructed between River Uppar and Slag Landfill area of Patta land. Now, the issue is resolved by Hon'ble National Green Tribunal, Principal Bench, New Delhi order dated 15.12.2018.</p>
29	The unit shall restrict the production within consented quantity and not to go for any excess Production than the consented quantity or expansion in any manner without obtaining Consent to Operate from the Board.	Complied. We have ensured the production as per TNPCB consented quantity.
30	The unit shall furnish the revised water balance report to TNPCB before 31.10.2017.	Complied. A copy of report furnished to TNPCB.

31	The unit shall operate and maintain the interlock system with plant operation and pollution control measures.	Complied. We have ensured the operation and maintenance of interlocking system with plant operation and pollution control measures.
32	As Corporate Social Responsibility, the unit shall provide protected water supply to the Meelavittan village.	Complied. We have ensured drinking water supply to the Meelavittan village on daily basis through dedicated water tankers.

Vedanta Limited – Sterlite Copper, Thoothukudi

Consent Order No: 170817911029 Dated: 07.09.2017 under Air Act, 1981

S.NO	Consent Condition	Compliance Status
1	The unit shall operate and maintain the Air Pollution Control measures provided at all emission sources continuously and efficiently to satisfy the Ambient Air Quality / Emission standards prescribed by the Board.	Complied. We have ensured the operation and maintenance of air pollution control measures continuously and effectively. The ambient air quality / emission values are maintained well within the standards prescribed by the board.
2	The unit shall operate and maintain the hoods with extraction system provided for collection of fugitive emission at (i) smelter lance, (ii) smelter feed port, (iii) Rotary holding furnace-slag granulation & (iv) Matte tapping, effectively and continuously for passing the emission through the newly installed flue gas desulphurization system consisting of bag filter and 2 stage scrubber, for effective control of emission.	Complied. The fugitive emissions collected from the hoods provided at (i) smelter lance (ii) smelter feed port, (iii) Rotary holding furnace-slag granulation and (iv) Matte tapping are passed through the flue gas desulphurization system consisting of bag filter and scrubber, for effective control of emission. The ambient air monitoring stations values are within the prescribed norms.
3	The unit shall operate and maintain the bag houses provided at smelter prior to flue gas desulphurization system's scrubber and at converter prior to scrubber, effectively and continuously for control dust emission.	Complied. The fugitive emissions collected from the various hoods are routed through the bag house at smelter prior to Flue Gas Desulphurisation System scrubber to control dust emission.
4	The unit shall operate and maintain the fully closed Gypsum conveyor belt effectively and continuously for prevention of fugitive emissions.	Complied. Gypsum is conveyed through pipe conveyor to gypsum pond to prevent fugitive emissions.
5	The unit shall operate and maintain the dry dust collection systems with bag filters installed at rock phosphate area, effectively and periodically for averting dust carry over.	Complied. Dry dust collection system is effectively operated and maintained at Rock Phosphate area. The DDC system has been upgraded to minimize dust emissions.
6	The unit shall improve the efficiency of bag filter provided in the rock phosphate handling area so as to avoid the dust spreading from this area to the surroundings.	Complied. Dry dust collection system is effectively operated and maintained at Rock Phosphate area. The DDC system has been upgraded to minimize dust emissions.
7	The unit shall adhere to the Ambient Noise Level Standards prescribed by the Board.	Complied. The ambient noise levels are maintained well within the norms as prescribed by the board.

8	The unit shall conduct periodical survey for Ambient Air Quality/ Noise Level/ Stack Emission as per the MoEF Notification 2009 and submit the report to the Board without fail.	<p>Complied.</p> <p>We have ensured the monitoring of ambient air quality on daily basis, similarly the noise level and stack emission are monitored on weekly basis. The monitoring reports are submitted to board on monthly basis.</p> <p>In addition, we have installed CAAQM for ambient air quality and online stack analyzers for process stack emission and these analyzers have been connected to Care Air Centre, TNPCB for real time monitoring.</p>
9	The unit shall regularly calibrate and ensure the connectivity of online monitoring system for the emission parameter SO ₂ attached to ISA / RH furnace (1&2), Converters/ slag Cleaning /Anode furnaces, SAP 1 &2 and provide proper data to Care Air Centre of TNPCB, Chennai at all times.	<p>Complied.</p> <p>The online stack analyzers are calibrated once in 6 months as per OEM recommendations with proper communications to Care Air Centre, TNPCB.</p>
10	The unit shall ensure online monitoring system provided for PM at emission sources is connect with Care Air centre of TNPCB and provide proper data at all times.	<p>Complied.</p> <p>CPCB has prescribed to provide online PM analyzer for concentrator section and to connect the data to TNPCB/CPCB Care Air Centre Servers. We do not have any mining and the associated concentrator operation in Tuticorin.</p> <p>However, we have installed online PM analyzer at smelter emission sources viz. ISA/RHF, SGS-1 and SGS-2 stack and connected with Care Air Centre of TNPCB, Chennai.</p>
11	The unit shall regularly calibrate and ensure the connectivity of CAAQMS for the parameters of SO ₂ , NO _x , PM ₁₀ , PM _{2.5} & CO and provide proper data to Care Air Centre of TNPCB, Chennai at all times.	<p>Complied.</p> <p>The CAAQM analyzers are calibrated once in a month with prior communications to Care Air Centre, TNPCB.</p>
12	The unit shall ensure the CAAQMS provided for the parameters NO _x , PM ₁₀ , PM _{2.5} are connected with Care Air Centre of TNPCB, Chennai and provide proper data at all times.	<p>Complied.</p> <p>We have connected the CAAQMS for the parameters NO_x, PM₁₀ and PM_{2.5} with Care Air Centre of TNPCB, Chennai.</p>
13	The unit shall maintain and operate the fence line monitoring system for the movement of gaseous pollutants across the boundaries encompassing the plant, especially for SO ₂ at all times.	<p>Complied.</p> <p>We have ensured the operation and maintenance of Fence Line monitoring system across the boundaries encompassing the plant to monitor the movement of gaseous pollutant of SO₂.</p>

14	The unit shall regularly calibrate all instruments within 20%-80% of the operating range of the analyzer (i.e. 20-750ppm) of 0-1000ppm.	Complied. All SO2 online stack analyzers are calibrated within 20% - 80% of the analyzers' operating range.
15	The unit shall conduct at least two calibrations in a year for OPSIS instruments and weekly calibration of ABB instruments. The calibration of ABB make instruments shall be conducted every Saturday at 8:00 a.m. to avoid confusion with regard to the operating mode, i.e. maintenance. Any change in calibration schedule, if required, will be intimated to the Care Air Centre, TNPCB.	Complied. All ABB analysers were replaced with OPSIS analyzers and the calibration is carried out once in 6 months as recommended by OEM with prior intimation to Care Air Centre, TNPCB.
16	The industry shall conduct regular monitoring of Acid mist parameter (SO3) in sulphuric acid plant 1 & 2 and pH of Scrubber and tail gas scrubber outlets for SO2 emission within a month.	Complied. The acid mist (SO3) concentrations are monitored on weekly basis. Scrubber liquor pH is monitored through online analyzers and the report is submitted to Board on monthly basis
17	The unit shall inform through e-mail to Care Air Centre TNPCB and the local District office immediately about tripping, maintenance of plant, analyzer connection failure at SO2 emission if any.	Complied. We have ensured tripping and plant maintenance communications to Care Air Centre- Chennai, JCEE-Tirunelveli office and Thoothukudi District Office through e-mail.
18	The unit shall maintain the interlocking system at level of 250 ppm for all the stacks of smelter and sulphuric acid plants.	Complied. We have provided interlocking limit to less than 250 ppm for Smelter and Sulphuric Acid Plants stack emissions.